VALERO

May 26, 2017

VIA EMAIL

Colby S. LaPlace
Senior Hazardous Materials Specialist
Solano County Environmental Health Services Division
675 Texas Street, Suite 5500
Fairfield, CA 94533
cslaplace@solanocounty.com

Re: May 22, 2017 Solano County Information Request

Dear Mr. LaPlace:

In connection with the May 22, 2017 correspondence from the Solano County Environmental Health Services Division ("Solano County"), Valero Refining Company – California ("Valero" or "Company") is providing you with information responsive to your requests. In compiling the production of the enclosed information, we have focused on gathering in an expedient manner readily available information responsive to your requests in an effort to promptly assist you in your inspection. If you require additional information, please let us know. Valero reserves its right to supplement its productions as needed.

Please note that some of the information the Company is providing qualifies as confidential trade secret information the California Uniform Trade Secrets Act and the California Health and Safety Code. Please treat the information herein as confidential, and provide the Company written notice of any request to release CBI or trade secrets, as provided by the Freedom of Information Act and equivalent state law.

Under the cover of this letter, and in keeping with Solano County's May 26, 2017 production deadline, we are providing information responsive to Request Items A1, A2, A3, A4, and A5.
Item A1: Information relating to Valero's investigation into the May 5, 2017 power outage, including a timeframe for completion of the investigation, and information regarding preliminary areas of interest, specifically as relates to:

a) **Flares;**
b) **Dump stack fire;**
c) **Steam failure;**
d) **Flue gas scrubber abnormal operations; and**
e) **Cogeneration ("Cogen") load and capacity, and the ability of the Cogen to be kept running to supply critical services when PG&E goes off.**

RESPONSE: As discussed during Valero's presentations to Solano County on May 9th and 10th 2017, the Company's investigation into the May 5, 2017 Pacific Gas and Electric ("PG&E") power outage is ongoing. It is our practice to complete incident investigations as promptly as possible, but the investigations of complex incidents such as this one take time. While we cannot at this time estimate when our investigation will be complete, Valero is committed to cooperating with Solano County and to keeping you apprised of incident investigation developments. To this end, we would propose a briefing to Solano County during the week of June 19, which would serve as a status update on Valero's ongoing investigation activities. Please let us know your availability for this meeting.

We further understand that Solano County intends to reach out to PG&E for more information regarding the May 5, 2017 outage. Valero also has requested relevant information from PG&E, but we have not yet received a response. We understand from PG&E that an independent investigation is underway, and that a preliminary report may be available within 45 days. As Solano County receives relevant outage information from PG&E a result of your agency's inquiry, Valero would appreciate the opportunity to understand the information that is provided.

In the interim, the Company is in a position to address item A1(e). As we noted during our May 10, 2017 presentation to Solano County, PG&E serves as both the primary and backup power source for the Benicia refinery. Specifically, the Vaca Dixon and Moraga PG&E powerlines available to Valero are independent of one another, and have a 100 megawatt ("MW") capacity each. A typical Benicia refinery load is 65 MW. Therefore, the refinery does not require access to both powerlines at the same time to provide full power. Instead, one PG&E powerline serves as a backup for the other. To summarize: *PG&E is the primary and backup* source of the refinery's electrical power, and PG&E supplies power to meet any demand over what the Cogeneration Unit ("Cogen") is providing at any given time.

As noted during our presentation earlier this month, the Cogen was built in response to rolling brown-outs in 2002, and was never intended to serve as a refinery backup power supply. Significantly, the Cogen is considered an *alternate* refinery power supply that can only provide up to 47 MW of power. It is not able to accommodate a typical refinery load of 65 MW. As a result, when the first PG&E powerline went down while second PG&E powerline was out of service, the Cogen circuit breaker opened. This is analogous to a home circuit breaker tripping when the load exceeds the rating of the breaker. As a built-in safety function, the Cogen unit must trip in such a circumstance to protect the electrical systems and avoid further equipment damage or fire. Thus, the Cogeneration unit performed as designed.

The electrical supply from the two PG&E powerlines mentioned above is divided into three individual electrical "feeders" (58 MW + 58MW + 100MW) on the Valero side of the Bahia substation. These three feeders are purposely connected to one another; in other words, the breakers are "closed" to ensure the power supply reaches each refinery substation no matter which of the two PG&E powerlines is in service. In nearly all cases, each refinery substation receives power from two of the three supply lines. This configuration is also known as a "double-ended" configuration, which improves reliability in case of an electrical supply anomaly on the PG&E powerline side of the system.

The Cogen is tied into this "double-ended" system in parallel through its own breaker. When that breaker opens, as it did on May 5, 2017, the Cogen system trips and no longer supplies power to the Refinery. There is no capability to isolate the Cogen system's power exclusively to specific equipment because it ties into the general power supply system upstream of the individual refinery substations. Then, when the PG&E power is lost, the entire load is presented to the Cogen alone, thereby forcing it to trip off-line.

Item A2: Information regarding a failsafe shutdown of flue gas scrubber to ensure oxygen does not migrate backward?

RESPONSE: The Flue Gas Scrubber abatement equipment train is a pressurized system beginning with force-draft carbon monoxide ("CO") furnaces, continuing with the selective catalytic reduction ("SCRs"), followed by the non-fired waste heat boiler, Belco particulate matter ("PM") scrubber and Cansolv sulfur dioxide ("SO2") scrubber. There is no motive force for atmospheric oxygen to "migrate backward" into this system.

Item A3: Information regarding extending flare stake [*sic*] operation during steam outage.

RESPONSE: Emergency flares generally fall into two categories: (1) steam-assisted or (2) air-assisted. Our flares were designed and fabricated by the John Zinc Company as steam-assisted flares. The steam ensures nearly complete combustion by atomizing the fuel and propelling it upward while at the same time cooling the flare tip itself. As noted in our response to A(1), the Company's investigation into the May 5, 2017 Pacific Gas and Electric ("PG&E") power outage is ongoing, and Valero looks forward to further discussing this inquiry with the County during the proposed briefing.

Item A4: Provide a copy of a process flow diagram ("PFD") of the dump stack (*i.e.*, the FCCU and Coker pressure relief device)

RESPONSE: The Company will make this document available to Solano County for on-site review, consistent with Solano County's request.

Item A5: Provide a copy of a piping and instrumentation diagram ("P&ID") of the dump stack

RESPONSE: The Company will make this document available to Solano County for on-site review, consistent with Solano County's request.

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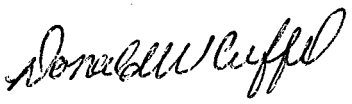
The Company reserves its rights related to the inadvertent disclosure of attorney-client information or work-product information included in this production. Cal. Code Civ. Proc. § 2031.285. The disclosure of such information does not operate as a waiver if the disclosure is inadvertent and the Company took reasonable steps to prevent and rectify the disclosure. Please

immediately notify me if you discover information in this production that suggests the document is subject to the attorney-client privilege or protected by the work-product doctrine.

We trust this information is responsive to your requests. If you have any questions, please contact me at (707) 745-7545.

Very truly yours,



Donald W. Cuffel
Director – Health, Safety, Environmental &
Community/Government Affairs
Valero Refining Company - CA, Benicia Refinery

Enclosures